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Before The

UNITED STATES ATOMIC ENERGY COMMISSION

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Dockets Nos. 50 - 269, 50 - 270, and 50 - 287

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MATTER OF THE APPLICATION OF DUKE POWER COMPANY
FOR LICENSES UNDER
THE ATOMIC ENERGY ACT OF 1954 AS AMENDED
FOR THE CONSTRUCTION AND OPERATION OF
OCONEE NUCLEAR STATION, UNITS 1, 2 and 3

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# REPLY OF JOINT PETITIONERS, PIEDMONT CITIES POWER SUPPLY, INC., and ELEVEN PIEDMONT ELECTRIC CITIES TO ANSWERS OF DUKE POWER COMPANY AND ATOMIC ENERGY COMMISSION REGULATORY STAFF OPPOSING JOINT PETITION FOR LEAVE TO INTERVENE

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Piedmont Cities Power Supply, Inc.
City of Statesville, North Carolina
City of High Point, North Carolina
City of Lexington, North Carolina
City of Monroe, North Carolina
City of Shelby, North Carolina
City of Albemarle, North Carolina
Town of Cornelius, North Carolina
Town of Drexel, North Carolina
Town of Granite Falls, North Carolina
Town of Newton, North Carolina
Town of Lincolnton, North Carolina

Joint Petitioners for Leave to Intervene

Jack R. Harris
J. O. Tally, Jr.
Spencer W. Reeder

Attorneys for Joint Petitioners
for Leave to Intervene

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## STATEMENT

This is a reply of the Joint Petitioners for leave to intervene, Piedmont Cities Power Supply, Inc., and eleven Piedmont electric cities ("Joint Petitioners"), to the answers opposing intervention submitted in writing by Duke Power Company and orally by the Regulatory Staff of the Atomic Energy Commission at or about the time of the pre-hearing conference held before the Atomic Safety and Licensing Board at Walhalla, South Carolina, on August 15, 1967.

This reply is filed pursuant to order of Chairman Samuel Jensch, Atomic Safety and Licensing Board, Washington, D. C., entered in the

exercise of his sound discretion on the record at the pre-hearing conference. (Tr. 91.)

ARGUMENT

I

Congress has granted under the Atomic Energy Act an absolute right to intervene in this proceeding to "any person whose interest may be affected by the proceeding".

A. The Atomic Energy Act by its terms establishes the statutory basis for the Commission's granting Joint Petitioners a hearing and for the Commission's admitting Joint Petitioners as parties to this proceeding.

1. The Atomic Energy Act, 42 U.S.C., Sec. 2239(a), provides:

> "(a) In any proceeding under this chapter, for the granting, suspending, revoking, or amending of any license or construction permit*** the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding."

The Atomic Energy Act, 42 U.S.C., Sec. 2014(q), further provides:

> "The term 'person' means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successors, representative, agent, or agency of the foregoing."

2. This proceeding under the Atomic Energy Act is an application by Duke Power Company for the granting of licenses, including a construction

permit, to build and operate three nuclear reactors of the pressurized water type, and this is therefore a "proceeding under this chapter, for the granting *** of any license or construction permit" within the meaning of 42 U.S.C., Sec. 2239(a), supra.

3. Joint Petitioners include one "corporation" and each of the eleven other Joint Petitioners is a "political subdivision of, or any political entity within a state", and each Joint Petitioner is therefore a "person" within the meaning of 42 U.S.C., Sec. 2014(q) supra.

4. Joint Petitioners have requested a hearing and have requested to be admitted as parties by filing their joint petition for intervention within the time fixed by the Notice of Hearing as required by the Commission's Rules of Practice (CFR Title 10, Chapter 1, 2. 714 Intervention(a)).

5. Therefore, the sole question presented for finding and determination by this Board is whether Joint Petitioners' "interest may be affected by the proceeding".

B. If the Board finds, as it must, that Joint Petitioners' "interest may be affected by the proceeding", the Act mandatorily requires the Commission to grant Joint Petitioners a hearing and to admit Joint Petitioners as parties to the proceeding. Atomic Energy Act, 42 U.S.C., Secs. 2239(a); 2014(q) supra.

II

Joint Petitioners for leave to intervene have set forth in their joint petition an "interest" which "may be affected by the proceeding".

A. The "interest" of Joint Petitioners is set forth in their joint petition for leave to intervene.

1. The interest of Joint Petitioners, as set forth in their petition for leave to intervene*, is to oppose the conclusion that under Section 104(b) of the Act the Commission has jurisdiction to grant to applicant an exclusive Research and Development License for the pressurized water type reactor to be employed in the Oconee Nuclear Station, Units 1, 2 and 3. (J.P., p. 2-3, par. #2 and #3).

2. The interest of Joint Petitioners as set forth in their petition for leave to intervene, is to support the conclusion that the Commission under Section 103 of the Act has jurisdiction to grant to Duke, upon proper application, a non-exclusive commercial license for the pressurized water type reactor to be employed in the Oconee Nuclear Station, Units 1, 2 and 3, conditioned upon Duke's offering to Petitioners a fair and reasonable participation in the ownership of said pressurized water type reactor to be employed in said Oconee Nuclear Station, Units 1, 2 and 3. (J.P. p.2, par. #2; M.D. pps. 2-5, par. #2 - #4.)

The interest of Joint Petitioners is therefore to oppose a jurisdictional finding of fact by the Board under Section 104(b) of the Act that the pressurized water type of reactor to be employed by Duke does not have practical

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*Joint Petition for Leave to Intervene ("J.P.") includes the Motion to Dismiss ("M.D.") and the Memorandum ("Mem."), both of which are incorporated in the Joint Petition for Leave to Intervene.

value for commercial use, and to support a jurisdictional finding of fact by the Board that the pressurized water type of reactor to be employed by Duke does have practical value for commercial use. (Mem., pp. 2-4)

The assertion of Joint Petitioners' "interest" as set forth in their Joint Petition, is not inprovident, as shown by the following contrast between the rights of petitioners under a Section 103 Commercial License and the "no rights" of Petitioners under a Section 104 Research and Development License:

| Commercial (Section 103) | Research and Development (Section 104) |
|---|---|
| 1. Petitioners have a statutory "right" to insist that Duke's license for a pressurized water type of reactor be "non-exclusive", and conditioned upon allowing to Joint Petitioners a participation in the license to acquire and ownership of the Oconee Nuclear Station, Units 1, 2 and 3, upon payment of their share of the cost. (Mem. p. 10-11; Transcript of Prehearing Conference ("Tr.") pp. 66-69) | 1. Petitioners have "no-rights" to insist that Duke's license for a pressurized water type of reactor be "non-exclusive", and conditioned upon allowing to Joint Petitioners a participation in the reactor license and ownership of the Oconee Nuclear Station, Units 1, 2 and 3, upon payment of their share of the cost. ("Response of the AEC Regulatory Staff to Protest of Piedmont Electric Cities Against Duke Power Company's Application for Unconditional Licenses", dated 31st July, 1967; "Answer of Duke Power Company to Protest of Piedmont Electric Cities Against Duke Power Company's Application for Licenses for the Oconee Nuclear Station, Units 1, 2 and 3", dated July 28, 1967; "Order Denying Requests and Dismissing Protest of Piedmont Electric Cities", issued August 9, 1967, by Atomic Safety and Licensing Board, per Samuel W. Jensch, Chairman; M.D. p. 4, 1st full paragraph) |

| | |
|---|---|
| 2. Petitioners have the procedural rights provided in the Act to enforce the substantive right above set forth. (Mem. p. 10-11; Transcript of Prehearing Conference ("Tr.") pp. 66-69) | 2. Petitioners have "no-right" to written notice of the application, no right to an Attorney General's opinion on Anti-trust, and no right to a hearing before this Commission on a Protest requesting a conditioned "non-exclusive" license, among other "no-rights". ("Response of the AEC Regulatory Staff to Protest of Piedmont Electric Cities Against Duke Power Company's Application for Unconditional Licenses", dated 31st July, 1967; "Answer of Duke Power Company to Protest of Piedmont Electric Cities Against Duke Power Company's Application for Licenses for the Oconee Nuclear Station, Units 1, 2 and 3", dated July 28, 1967; "Order Denying Requests and Dismissing Protest of Piedmont Electric Cities", issued August 9, 1967, by Atomic Safety and Licensing Board, per Samuel W. Jensch, Chairman; M.D. p. 4, 1st full paragraph) |

B. The "interest" of Joint Petitioners, set forth in the Joint Petition as aforesaid, "may be affected by the proceeding".

1. Under the facts set forth in the application of Duke Power Company as supplemented and amended herein, the Board should find as a jurisdictional fact that the pressurized water type reactor to be employed by Duke does have practical value for commercial use, which would necessitate a conclusion that neither the Board nor the Commission has jurisdiction to grant a Research and Development License or Construction permit as applied for by Duke under Section 104 of the Act. (Application, Supplement 1, pages 1-1, 1-5;

Appendix A hereto, pages 2, 3, a copy of which is hereto attached and marked Appendix A and made part hereof; Mem. p. 1, 6-9; Transcript p. 14-17; Amendment No. 3 to Application for Licenses, paragraphs A-4 - A-6, B-1 - B-4)

2. Nevertheless, the AEC Regulatory Staff has recommended that at the conclusion of the hearing scheduled before the Board at Walhalla, South Carolina, on August 29, 1967, the Board should issue a Research and Development Construction Permit to Duke under Section 104(b) of the Act, which implies a finding of Research and Development license jurisdiction together with a jurisdictional finding of fact that the pressurized water type of reactor to be employed does not have practical value for commercial use. (Notice of Hearing, dated 24 July, 1967, p. 2; Prehearing Statement on behalf of AEC Regulatory Staff, Transcript p. 100, 104)

3. Unless the Joint Petition for Leave to Intervene is granted, the interest of Joint Petitioners may be adversely affected by the proceeding, for the reason that both the Applicant and the AEC Regulatory Staff are seeking to obtain a finding that, without regard to the question of jurisdictional fact, common to both Section 103 and Section 104 licenses, as to whether or not the pressurized water type reactor to be employed is of practical value for commercial use upon the facts of record in this proceeding, a Research and Development License should be issued to applicant because, forsooth, the applicant proposes to conduct certain

experimental activities which cannot in any way diminish or destroy the established practical value for commercial use of the pressurized water type of reactor to be employed in the Oconee Nuclear Station, Units 1, 2 and 3. (Application Supplement 1, p. 1-34, 1-35; Transcript p. 41-44)

4. The interest of Joint Petitioners, set forth in their Joint Petition for Leave to Intervene, may also be adversely affected by the proceeding, for the reason that if Joint Petitioners interest is not represented, the Atomic Energy Commission may adopt an interpretation of the Atomic Energy Act not authorized by law, and may reject the statutory interpretation required by law. Since the Atomic Energy Commission has hitherto adopted ex parte an interpretation of the words "Research and Development" and "Commercial" contrary to that of Petitioners, it is respectfully submitted that Joint Petitioners for Leave to Intervene are entitled to a hearing where they may develop by evidence such admissions against interest on the part of the Applicant as that contained in the following press release of Duke Power Company, dated on or about August 12, 1967:

From Public Relations Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina

FOR IMMEDIATE RELEASE

CHARLOTTE--W. B. McGuire, president of Duke Power Company, Friday called "completely untrue" the latest allegation by 11 North Carolina towns that Duke Power has been misleading in its application for an Atomic Energy Commission license to build its Oconee Nuclear

Station.**********

McGuire concluded by saying: "Duke Power Company has been interested in the possiblity of nuclear generation of electricity since enactment of the Atomic Energy Act of 1954. Since that time we have spent about $12 million on study, training and research in the nuclear field.

"The Oconee Nuclear Station is an outgrowth of these efforts and now that the generation of electric power is technologically and economically feasible,**********"

in order to avoid a denial to these Petitioners of procedural due process.

## CONCLUSION

Since, Congress has granted under the Atomic Energy Act an absolute right to intervene in this proceeding to "any person whose interest may be affected by the proceeding"; and

Since, Joint Petitioners for leave to intervene have set forth in their joint petition an "interest" which "may be affected by the proceeding"; now

Therefore, it is respectfully submitted that the Commission should grant a hearing to Joint Petitioners and admit Joint Petitioners as parties to the proceeding all as prayed for in their Joint Petition for Leave to Intervene.

Respectfully submitted,

Jack R. Harris
Suite 207 - Stimpson-Wagner Building
Statesville, North Carolina

J. O. Tally, Jr.
P. O. Drawer 1660
Fayetteville, N. C.

Spencer W. Reeder
Spencer Building
St. Michaels, Maryland

Attorneys for Joint Petitioners
for Leave to Intervene

VERIFICATION

DISTRICT OF COLUMBIA, SS:

SPENCER W. REEDER, being first duly sworn, states that he is an attorney duly admitted to the practice of law in Maryland, the United States, Ohio, New York, and the District of Columbia; that he has been employed as Special Counsel by each and all of the Joint Petitioners for Leave to Intervene herein; that he has read the foregoing document and knows the contents thereof; that he has subscribed and executed said document as a duly authorized attorney for said Joint Petitioners; that he has been duly authorized by each and all of the Joint Petitioners to file the aforesaid document; and that the contents thereof are true and correct.

Spencer W. Reeder

Subscribed and sworn to before me, a Notary Public of the District of Columbia, this 24th day of August, 1967.

Notary Public

My commission expires:

My Commission Expires May 31, 1970

# APPENDIX A

PROPERTY OF THE U. S. GOVERNMENT

DOCKET NO. 50-269
50-270
50-287

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# Duke Power Company

## OCONEE NUCLEAR STATION
UNITS 1 AND 2

# Preliminary Safety Analysis Report

Volume I

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# 1 INTRODUCTION AND SUMMARY

## 1.1 INTRODUCTION

This Preliminary Safety Analysis Report is submitted in support of Duke Power Company's application for a construction permit and facility license for the two-unit Oconee Nuclear Station to be located on the shore of future Lake Keowee in Oconee County, South Carolina. The station location is shown on Duke's Service Area Map, Figure 1-1.

Each generating unit will operate initially at core power levels up to 2452 mwt which corresponds to a net electrical output of about 839 mwe. All physics and core thermal hydraulics information in this report is based upon the reference core design of 2452 mwt. It is expected that each unit will be capable of an ultimate output of 2584 mwt (including 16 mwt contribution from reactor coolant pumps), corresponding to a net electrical capability of about 874 mwe. Site parameters, principal structures, engineered safeguards and certain hypothetical accidents are evaluated for the expected ultimate core output of 2568 mwt.

The nuclear steam supply system is a pressurized water reactor type similar to systems operating or under construction. It uses chemical shim and control rods for reactivity control and generates steam with a small amount of superheat in once-through steam generators. The nuclear steam supply system and two fuel cores for each of the two units will be supplied by The Babcock & Wilcox Company.

Construction is scheduled for completion in time for loading fuel into Unit 1 in December 1970 and for its commercial operation by May 1971, with commercial operation of Unit 2 scheduled by May 1972. To meet this schedule, construction of the Reactor Building is to begin by September 1, 1967. The general arrangement of major equipment and structures, including the Reactor, Auxiliary and Turbine Buildings, is shown on Figures 1-2 through 1-14.

The organization of this report follows as closely as possible the AEC's "Guide" announced in the Federal Register on August 16, 1966. Every attempt has been made in this report to be completely responsive to that guide, to the proposed AEC design criteria, and to all known pertinent questions asked of other applicants up until the time of this writing.

As the station design progresses from conceptual design to final detailed design, the station description and analyses will be subject to change and refinement. This report presents descriptive material and analyses of a "reference design." Any significant changes to the criteria or designs which affect safety will be promptly brought to the attention of the AEC by suitable supplements.

Duke is fully responsible for the complete safety and adequacy of the station, and, consistent with long-standing practice, Company personnel will design, construct, test, start and operate the units. Assistance in performing these functions will be rendered principally by B & W and by Duke's general consultant, Bechtel Corporation, along with such other consultants and suppliers as may be required. The technical qualifications of Duke, B & W and Bechtel are outlined in Appendix 1A.

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ment and experimental work on boiling heat transfer performed by B & W over the past 10 years. Each generator consists of a vertical shell-and-tube, counterflow heat exchanger with reactor coolant on the tube side and steam on the shell side. Feedwater is pumped into the generator, heated to saturation by direct mixing with steam, converted to steam and superheated in a single pass through the generator. The basic design parameters such as feedwater heating, boiling length, superheat length and performance characteristics have been confirmed by testing of a full-length, 7-tube section and a 37-tube section. Tests are continuing to obtain additional data with the larger test section.

With the once-through design, natural circulation flow is adequate to remove full decay heat without the use of reactor coolant pumps. Thus, with total loss of pumps, the fuel will not reach departure from nucleate boiling.

## 1.3 TABULAR CHARACTERISTICS

Table 1-2 is a comparative list of important design and operating characteristics of Duke's Oconee Nuclear Station Units 1 and 2, Turkey Point Units 3 and 4 (Florida Power and Light Company), Indian Point Station Unit 2 (Consolidated Edison Company of New York, Inc.), and Brookwood (Rochester Gas & Electric Company) nuclear power stations. These stations have design and operating parameters close to those of the Duke facility.

The data contained in Table 1-2 represent information presented in available station descriptions, and Safety Analysis Reports submitted for licensing.

The design of each of these stations is based upon information developed from operation of commercial and prototype pressurized water reactors over a number of years. The Oconee design is based upon this existing power reactor technology, and has not been extended beyond the boundaries of known information or operating experience.

The similarities and differences of the features of the reactor stations listed in Table 1-2 are discussed in the following paragraphs. In each case the item number used refers to the item numbers used in the table.

Item 1. Hydraulic and Thermal Design Parameters

Most of the parameters listed in this section are similar for each reactor facility, differing according to the thermal power level. The differences of power level are reflected chiefly in the total heat output, core size (fuel loading), coolant flow rate, and total heat transfer surface. They amount only to a scaling down of the above parameters for a decrease in the thermal reactor power level, and do not alter the safety-related characteristics of the reactors. The Departure from Nucleate Boiling Ratio (DNBR) and the maximum ratio of peak to average total heat input per fuel pin ($F_{\Delta h}$ nuc.) are representative of a more conservative design for Oconee than for the other reactors presented. These comparisons are discussed in detail in 3.2.3.2.

Item 2. Core Mechanical Design Parameters

The dimensions, materials, and technology for each of the reactors in this

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